

# RECLAMATION

*Managing Water in the West*

## Pick-Sloan Missouri River Basin Program

Roger Otstot

Economist

Great Plains Region



U.S. Department of the Interior  
Bureau of Reclamation

# Part 1

# Basin Development

# River Basin Water Development

- Water
- Power
- Economic and Financial Arrangements

# Basin Development - Water

- To make deliveries to lands that cannot be served by direct diversions, project generated power may be used to pump water
- Pump diversions rely on power generated at project facilities

# Basin Development - Power

- Power Priorities - Sales
  - 1) Project Use e.g. Project Pumping Power
    - Provided by Reclamation
  - 2) Firm commercial customers (Preference Power)
    - Marketed by Western
  - 3) Non-firm commercial customers
    - Marketed by Western

# Basin Development

## Economic and Financial arrangements

- **Project Costs**
  1. Non-Reimbursable
    - a. Flood Control & Navigation
    - b. Recreation
    - c. Fish & Wildlife
  2. Reimbursable
    - a. M&I (with interest)
    - b. Power (with interest)
    - c. Irrigation (without interest)

# Basin Development

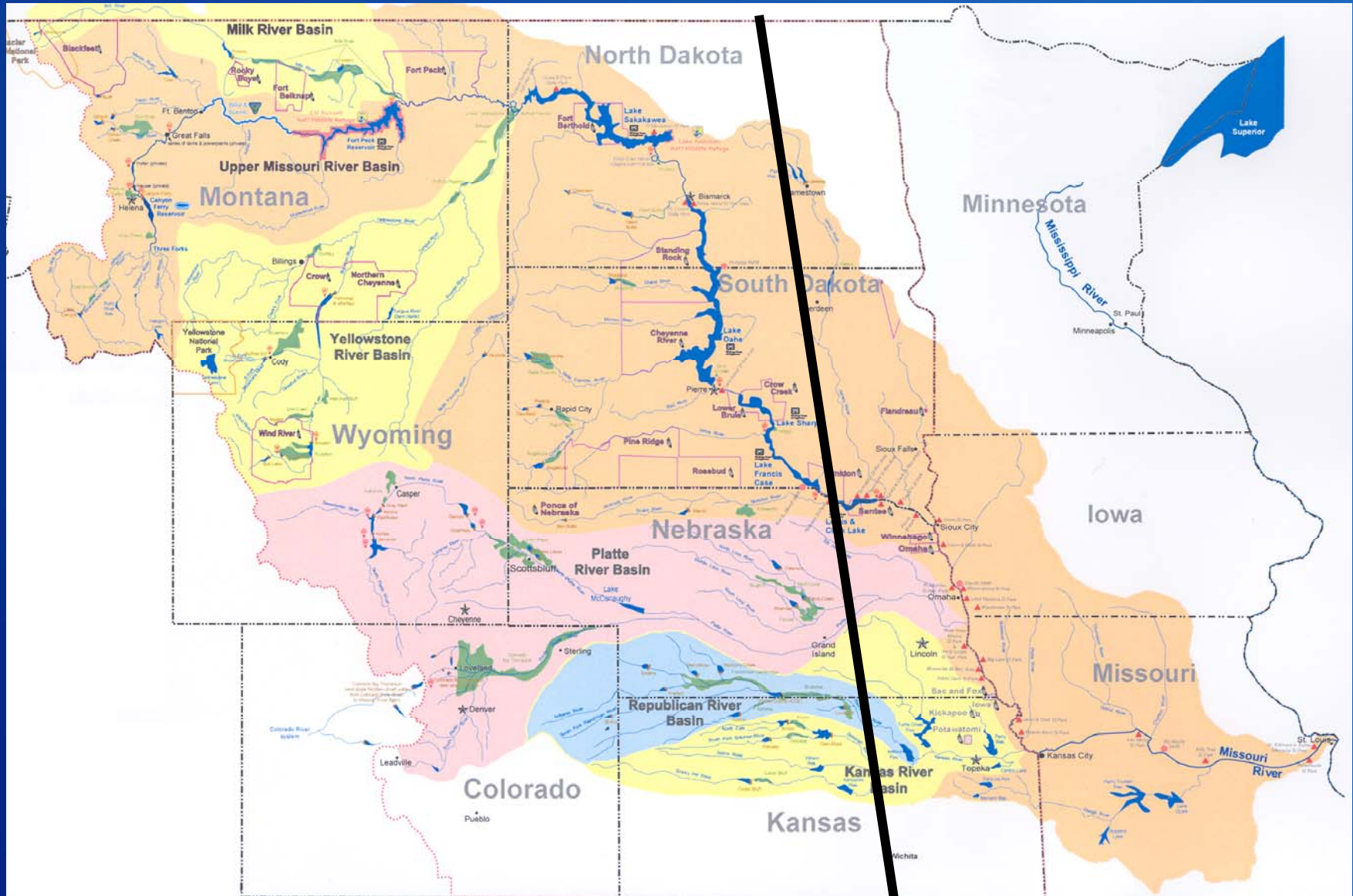
## Economic and Financial arrangements

- Power Sales Revenue are directed by legislation to repay:
  - Power Investment
    - O&M
    - Interest Expenses
    - Capital Costs
- Irrigation Development costs beyond the irrigator's ability to pay

# Part 2

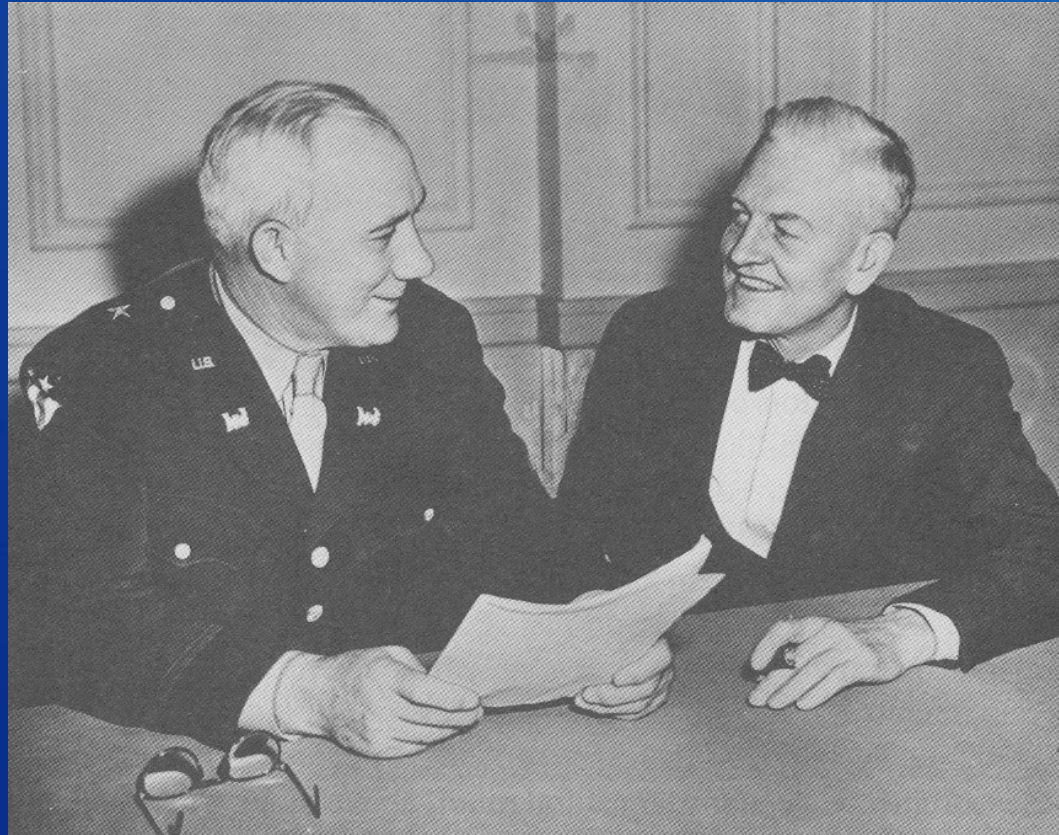
## Pick-Sloan Program





# RECLAMATION

# PICK-SLOAN PLAN



General Lewis A. Pick and Glenn Sloan

# PICK PLAN – HD 475

- Levees from Sioux Falls to St. Louis
- 18 Tributary Dams
- 4 New Major Dams on the Missouri Main Stem
  - Garrison
  - Oahe
  - Fort Randall
  - Gavins Point

# SLOAN PLAN – SD 191

- Approximately 85 new Tributary Dams
- 3 new Main Stem Dams
- 4.7 million acres of irrigated land
- Multipurpose - including flood control, irrigation, navigation, and power

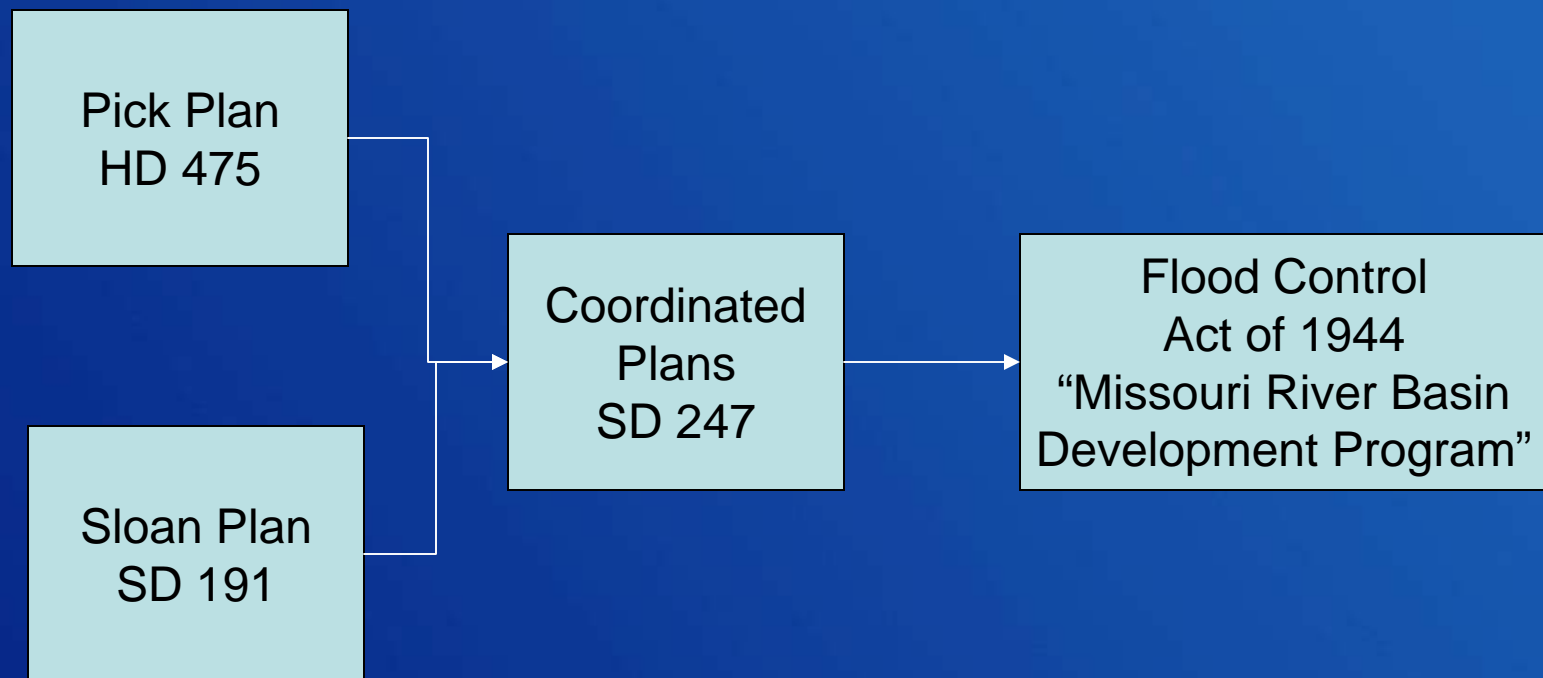


# MOTIVATION FOR COMPROMISE

- Missouri Valley Authority (MVA)
  - Comprehensive basin-wide program
  - Similar to Tennessee Valley Authority (TVA)
  - “New Deal” program
  - Endorsed by President Roosevelt
- Threatened vested interests of Reclamation and the Corps

# FLOOD CONTROL ACT OF 1944

## Pick-Sloan Plan



# Pick-Sloan Plan – Basic Features

- Basin Wide Program
- Multi-Purpose Program –
  - Flood Control, Irrigation, Hydropower, Municipal and Industrial, Navigation, Recreation, Fish and Wildlife
- Includes Projects in Colorado, Nebraska, Kansas, North Dakota, South Dakota, Wyoming, and Montana

# Pick Sloan Plan – Basic Features

- U.S. Army Corps of Engineers
  - Flood Control and Navigation
- U.S. Bureau of Reclamation (Reclamation)
  - Irrigation
- Both Agencies
  - Hydroelectric Power
  - Hydropower marketed by Reclamation
    - Transferred to Western Area Power Administration (DOE) in 1977



# DOE Organization Act of 1977

- Congress:
  - Created the Department of Energy (DOE)
  - Transferred Existing Power Marketing Administrations (PMA) to DOE (e.g. BPA)
  - Established Western Area Power Administration (Western)
  - Transferred Power Marketing Functions of Reclamation to DOE / Western

# Pick Sloan Plan – Basic Features

- Integrated Fort Peck Dam
- Five Main Stem Dams
  - Garrison, Oahe, Fort Randall, Gavins Point, Big Bend
- Approximately 90 dams authorized for construction for Reclamation
  - Irrigate 5.3 million acres

# Part 3

## Project-Use Power

# Project-Use Power

- Definition:
  - Power required to sufficiently lift irrigation water enough to provide irrigation service by gravity, defined as 10 foot of head at the farm turnout, unless otherwise specifically authorized by the Congress.

# Administration of Project Use Power

- Reclamation Administers Project Use Power Contracts with Irrigation Districts
- Western Does the Billing for Reclamation
- If the District is not connected directly to the Federal System, Western provides the wheeling arrangements to deliver power

# Ultimate Development Plan Irrigated Acres

	<u>Acres</u>
Flood Control Act of 1944	5.3 Million
Removed (De-authorized, etc.)	2.7 Million
Developed	0.6 Million
Remaining acres to be developed	2.0 Million

# Sub-Allocation of Pick-Sloan Pumping Power

- Total Installed Capacity 2,522.6 MW
- Total Sub-Allocation Project Use 398.3 MW  
15.8%
- Current Project Use 37.9 MW  
1.5%
- Future Project Use 360.4 MW

# Project-Use Power

1. Is not available to pump non-project water
2. Is not available to pump project water outside of the authorized service area
3. Will not be provided for on farm uses such as pressurizing sprinkler systems.



# Requirements to Access Project Use Power

1. Federally authorized irrigation project under Pick-Sloan
  - Feasibility study and legislation for authorization to construct
2. Congressional authorization for non-federal irrigation project under Pick-Sloan (Web Act, Hilltop, Gray Goose)
  - Legislation for the power allocation.

# Project Use vs. Firm Power

## Project Use Power

- Reclamation Administers
- 12.55 Mills/kWh
- Rate Repays O&M

## Firm Power

- Western Administers
- 24.49 Mills/kWh (P-S Eastern Division)
- Rate Repays
  - O&M
  - Capital
  - Interest
  - Purchase Power

# Impact of Drought

- Western's Firm Rate
  - Purchased Power is necessary to cover contractual obligations
- Project Use Power
  - Little impact since only O&M costs are covered

# Questions